

# Executive Summary

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## Introduction

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### Abstract

The Forest Service proposes to revise the 1988 Land and Resource Management Plan (Forest Plan) for the Lake Tahoe Basin Management Unit (LTBMU). Plan revision would provide an updated Forest Plan for the Lake Tahoe Basin Management Unit (LTBMU) that would guide management of National Forest System (NFS) lands in the Lake Tahoe Basin for approximately the next 15 years. The proposal updates the management direction for approximately 154,000 acres of NFS lands in California and Nevada by describing desired conditions, objectives, suitable uses, standards and guidelines and monitoring requirements. In accordance with the National Environmental Policy Act of 1969, the Forest Service provided opportunity for the public to comment on a Draft Environmental Impact Statement (DEIS) for the Draft Forest Plan. Comments have been responded to in this Final Environmental Impact Statement (FEIS) which analyzes the consequences of five alternatives including a “no action” alternative which would continue management under the 1988 Forest Plan, as amended. Alternative E (which was added as a result of comments on the DEIS) is the Agency’s Preferred Alternative and is fully embodied in the Draft Forest Plan.

### Decision to Be Made

The Regional Forester is the Responsible Official for the Forest Plan revision. The LTBMU developed alternatives, conducted analysis, and prepared the FEIS under the direction of the Forest Supervisor.

The decision to be made by the Regional Forester is whether to:

- Revise the current Forest Plan incorporating one of the action alternatives;
- Revise the current Forest Plan by combining measures from two or more alternatives; or
- Take no action at this time and continue to manage under the current Forest Plan, as amended.

### The Planning Process

An interagency and public collaborative process called Pathway 2007 (Pathway) was initiated in 2004 to coordinate planning efforts of the Forest Service (Forest Plan revision), the TRPA (Regional Plan Update), and the Lahontan Regional Water Quality Control Board/ Nevada Department of Environmental Protection (Lake Tahoe TMDL). Local and national special interest groups were represented in a forum setting that included state and local governments and

agencies. Pathway yielded a shared vision for the future of the Lake Tahoe Basin, incorporated in desired conditions in all five alternatives in this FEIS.

After Pathway, the focus of collaboration and public involvement shifted to Forest Plan revision. Five Forest Service public workshops during 2008-2009 focused on forest health, fuels reduction, wildlife habitat, water quality, and recreation opportunities.

A Notice of Intent to prepare a Forest Plan and EIS was published March 19, 2010. Two public meetings were held in the spring of 2010 to provide an update on the revision process and seek public input on potential alternatives to be analyzed in the Forest Plan EIS.

Meetings requested by interested agencies and special interest groups began in the winter of 2008 and will continue through the planning process. Consultation with the Washoe Tribe and the Fish and Wildlife Service from the states of Nevada and California will continue throughout the NEPA process.

The DEIS was available for the 90-Day Comment period starting on June 1, 2012. Four public informational meetings were held, two on July 17, 2012 at the Forest Supervisors Office in South Lake Tahoe, CA and two on July 18, 2012 at the North Tahoe Conference Center in Kings Beach, CA. Over 250 individuals attended these meetings. In addition, on July 19, 2012 a webinar was hosted online by the LTBMU Forest Plan Revision IDT with approximately 20 attendees.

During the comment period the LTBMU received over 18,500 emails and letters commenting on the DEIS and supporting documents. All comments from these letters were sorted, grouped by subject and analyzed. The Response to Comment document can be found in Appendix N of Volume III of this document package.

Publication of the FEIS and Draft Record of Decision (ROD) will begin a 60-day objection period. Members of the public, agencies, and groups who commented during the 90-day comment period may file an objection. After the time allowed for resolution of objections, a Record of Decision signed by the Regional Forester will be published and the revised Forest Plan will be in effect.

## **The Final Environmental Impact Statement**

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### **Issues**

The issues are generally regarded as subjects for which resource conditions, new science, or public perception of resource management have created a "need for change." The issues and concerns expressed during public scoping and collaboration have been used to develop the alternatives considered in this analysis. The issues that emerged during the public involvement process have been grouped into four major issue areas.

## **Watershed Health and Aquatic Ecosystems**

Some people favor major geomorphic stream channel restoration projects to restore watershed health and aquatic habitats, and reverse the trend of declining clarity in Lake Tahoe, while others would prefer to simply remove the major stressors to watershed health (e.g. barriers to stream flow) and allow natural processes to return systems to equilibrium over time.

Some people would like development removed from sensitive aquatic habitat and riparian areas, and restoration of the areas to more natural conditions, while others enjoy the public amenities in these areas and would like them to remain, or be expanded.

Active management of Stream Environment Zones (SEZs) to reduce fuel loads and restore native vegetation communities and habitats is supported by some, while others believe that management activities in SEZs should be minimized because they pose unacceptable risks to water quality, soil productivity, and habitats.

While there is general agreement about the need to remove certain aquatic invasive species, such as Asian clams and Quagga mussels, some people would prefer to retain warm-water sport fishes that are considered aquatic invasives.

There is a growing recognition that climate change is likely to result in hydrologic changes such as earlier snowmelt and higher peak flows in Lake Tahoe Basin streams. Some people believe that manipulating stream channel systems to restore natural stream and watershed processes will promote watershed resilience and maintenance of watershed function in changing climatic conditions. Others believe that any climate change is best addressed by allowing natural processes to control the rate of recovery.

## **Forest Health, Hazardous Fuels, and Terrestrial Wildlife Habitat**

There is broad agreement that dangerous levels of hazardous fuels are present throughout many parts of the Lake Tahoe Basin, the natural fire regime has been severely altered in many areas, and the mix of vegetation species and seral stages of vegetation communities are out of balance. There is disagreement on the best way to bring health and balance to our forests while sustaining wildlife.

Some groups believe that the pace and scale of current restoration efforts is insufficient to keep up with the current pace of decline, the effects of altered fire regimes, and the changing climate. Although restoration of natural process is the ultimate goal, under current conditions, allowing natural process to operate might have catastrophic consequences, including devastation to human communities and habitat for special status species. Others believe that in most areas, protection and preservation are preferred over active management. Thinning treatments that attempt to mimic natural processes will have harmful impacts to soil and water as well as reducing wildlife habitat quality.

Given current conditions and projections, some people believe that aggressive management is necessary to create conditions that are resilient to climate change. Others believe that allowing natural processes to operate as freely as possible will provide the mechanisms for restoration and produce the resilience needed to adapt to climate change.

## Sustainable Recreation

Public opinions varied from those preferring urbanized settings with many social encounters and service amenities such as those opportunities offered at Forest Service resorts to those seeking more primitive opportunities such as those offered in backcountry settings or remote beaches.

Some people believe that recreation development should be expanded and/or re-built to keep pace with demographic changes and user preferences as well as providing economic opportunities through year round use. Some favor allowing expansion outside the currently developed areas, such as additional parking to accommodate peak demands at popular sites. Other interests suggested that the Forest Service should provide more opportunities for private concessions and outfitter guides.

Others favor limiting recreation development because it is at or exceeding the capacity for which it was originally intended. This group also expressed a desire for more opportunities that provide a greater degree of solitude than is normally found at developed sites, opposes construction of new developed recreation sites, and favors further restrictions to minimize use conflicts and resource impacts.

Some groups felt that certain areas of NFS lands exhibit wilderness characteristics and should be evaluated and recommended for inclusion into the National Wilderness Preservation System. Others felt that the current amount of wilderness is adequate.

## Access to National Forests via Facilities, Roads and Trails

Some people would like LTBMU to increase the inventory of facilities, trails and roads to improve access to public lands, while others would prefer that LTBMU decrease the inventory of facilities, trails and roads to minimize impacts to public lands.

There is general agreement about the need to plan and manage appropriately sized parking areas at popular destinations that reduce or avoid environmental impacts, but there is disagreement about how much parking should be provided.

Some people believe that there is a need to lessen the dependence on the automobile for site access to alleviate pollution and crowding, and encourage alternative transportation options including public transit, boat ferries, pedestrian and bike and bike trails to NFS lands. Others prefer to access National Forest lands by private automobile and would like to retain and expand parking facilities.

Some people prefer that mechanized uses be separated from non-mechanized **uses** in time and/or space, while others prefer trails and areas open to shared use.

## Alternatives

The DEIS considers four alternatives in detail, which were developed in response to current management challenges and public issues and concerns:

**Alternative A** is the no action alternative; management would continue as described in the 1988 LTBMU Land and Resource Management Plan (LRMP), as amended and implemented. A 7-mile segment of the Upper Truckee River is recommended for Wild and Scenic River designation (common to all alternatives).

**Alternative B (DEIS Preferred Alternative)** does not significantly change the overall goals and management course set by the existing Forest Plan as currently implemented. It does, however, respond to present natural resource management concerns such as climate change, provides management direction that reflects current science, and provides direction that will better respond to contemporary recreation demands. Management Areas are reduced from 21 to 4, providing more uniform direction. Developed recreation emphasizes retirement of deferred maintenance and allows for a small increase in capacity.

**Alternative C** proposes a more aggressive approach that would achieve fuels and forest health desired conditions more rapidly than other alternatives. This alternative allows for a modest expansion of developed recreation facilities, more than other alternatives. The Dardanelles Inventoried Roadless Area is recommended for Wilderness designation. No major changes are proposed to the road and trail inventory, but a greater percentage of roads and trails would provide easier access for people and for vehicles of all kinds.

**Alternative D** is characterized by a passive management approach to watershed restoration and forest health. After currently planned projects are completed, natural processes rather than active management would be relied upon to achieve the desired conditions. This alternative emphasizes dispersed recreation opportunities, limits expansion of developed facilities, and recommends both the Dardanelles and Freel Inventoried Roadless Areas for Wilderness designation. No major changes are proposed to the road and trail inventory, but they would be managed to emphasize more primitive routes with more challenge.

**Alternative E (Draft Plan; FEIS Preferred Alternative)** was added in response to comments on the DEIS. It is similar to Alternative B, but adds approximately 3,800 acres to the Backcountry Management Area (from the General Conservation Management Area). It allows for recreation expansion with limits between those in Alternatives A and B (10% expansion in overnight accommodations and 5% expansion at ski areas). Changes in plan direction were explained in the response to comments on DEIS/Draft Plan (FEIS, Appendix N).

**Table ES-1. Major program strategies by alternative**

<b>Program Strategy</b>	<b>Alternative A No Action</b>	<b>Alternative B</b>	<b>Alternative C</b>	<b>Alternative D</b>	<b>Alternative E</b>
<b>Watershed and Aquatic Habitat Restoration</b>	Continued active restoration of currently planned projects plus additional potential	Continued active restoration of currently planned project plus additional potential	Continued active restoration of currently planned projects plus additional potential	After currently planned projects completed, rely on natural processes for recovery; no active restoration	Continued active restoration of currently planned project plus additional potential
<b>Aquatic and Terrestrial Invasive Species Management</b>	Current direction (2004 SNFPA ROD)	Increase from current level and incorporate AIS	Increase from current level and incorporate AIS	Focus on high priority species	Increase from current level and incorporate AIS
<b>Species Refuge Areas</b>	Active restoration	Increased active restoration	Increased active restoration	Manage existing populations	Increased active restoration
<b>PACs and HRCAs</b> (CA Spotted owl and Northern Goshawk)	Current direction (2004 SNFPA ROD)	Active management in PACs and HRCAs	Active management in PACs and HRCAs	Retain current direction (2004 SNFPA ROD)	Active management in PACs and HRCAs
<b>Native Species Management</b>	Active restoration	Increased active restoration	Increased active restoration	Manage existing populations	Increased active restoration
<b>Wildland Urban Interface (WUI)</b>	Collaborative Fuels Strategy per 2004 SNFPA ROD	Collaborative Fuels Strategy w/ exceptions to diameter limits and canopy cover requirements	Collaborative Fuels Strategy w/ exceptions to diameter limits and canopy cover requirements	Collaborative Fuels Strategy per 2004 SNFPA ROD	Collaborative Fuels Strategy w/ exceptions to diameter limits and canopy cover requirements

<b>Forest Vegetation Management</b>  (Back Country, General Conservation & Santini-Burton)	Treatments as currently planned under SNFPA	Thinning and prescribed burning for forest stand resiliency  Exceptions to diameter limits and canopy cover requirements  Forest Structure Restoration- establish new age classes in the form of openings from 1-10 acres  Convert fir to Jeffrey pine or mixed conifer in the form of openings, also results in forest structure change	Similar to Alt. B with more acres treated at greater reduction in stand density	Similar to Alt. A with emphasis on use of fire (prescribed & unplanned).	Thinning and prescribed burning for forest stand resiliency  Exceptions to diameter limits and canopy cover requirements more clearly explained  Forest Structure Restoration- establish new age classes in the form of openings from 1-10 acres; more clearly explained  Convert fir to Jeffrey pine or mixed conifer in the form of openings, also results in forest structure change
<b>Managed Wildfire</b>  (Natural ignitions allowed to burn for management objectives, assuming WUI is treated)	Desolation Wilderness Only	All NFS lands except Defense Zone	All NFS lands except WUI (Defense and Threat Zones)	All NFS lands except Defense Zone	All NFS lands except Defense Zone
<b>Developed Recreation</b>	Maintains existing & allows expansion up to PAOT capacity as described in the developed recreation prescriptions (approximately 10% expansion above current).	Maintains existing & allows expanding existing facilities in permit areas before building new ones in General Conservation MA (approximately 5% above of current) on higher capability lands.	Maintains existing & allows expanding existing facilities in existing permit areas and in General Conservation MA (approximately 15% above current) on higher capability lands.	Maintains existing & allows reduction and relocation of facilities (approximately 15% of current) within permit area; forest plan amendment required in expansion general conservation areas.	Maintains existing & allows expanding existing facilities in permit areas before building new ones in General Conservation MA.  Updated current inventory of recreation and allows recreation expansion to set limits (between approximately 5%-10% above current) on higher capability lands.

<b>Recreation Setting</b>	Mix of Recreation Opportunity Spectrum Classes, based on 1982 land status (138,700 acres)	Proposed updates to reflect current conditions and land acquisitions (154,784 acres)	Proposed updates to reflect current conditions & additional SPNM for proposed wilderness	Proposed updates to reflect current conditions & additional SPNM for proposed wilderness & backcountry additions	Proposed updates to reflect current conditions and land acquisitions (154,850 acres)
<b>Access to NFS Roads and Trails</b>	Continue to implement current management objectives.	Management objectives closely reflect current management.	Allow increased access for passenger vehicles for recreation and administrative use by improving road surfaces and opening some currently closed routes.	Decrease access for passenger for recreation and administrative use vehicles through management objectives that favor high-clearance vehicles.	Management objectives closely reflect current management.
<b>Transit Use to access NF Lands</b>	Collaborate with Tahoe Basin transportation partners to identify opportunities for additional transit infrastructure.	Collaborate with Tahoe Basin transportation partners to identify opportunities for additional transit infrastructure.	Collaborate with Tahoe Basin transportation partners to identify opportunities for additional transit infrastructure.	Collaborate with Tahoe Basin transportation partners to identify opportunities for additional transit infrastructure.	Collaborate with Tahoe Basin transportation partners to identify opportunities for additional transit infrastructure.
<b>Vehicle parking &amp; managed parking volume</b>	Provide the same amount of parking as current condition.	Provide the same amount of parking as current condition.	Provide an overall increase in parking.	Reducing overall parking.	Provide the same amount of parking as current condition.
<b>Backcountry Management Area</b>	Retain Current Inventoried Roadless Areas (IRA) in Backcountry	Retain Current Inventoried Roadless Areas in Backcountry	Retain Current Inventoried Roadless Areas in Backcountry minus Dardanelles	Retain Current Inventoried Roadless Areas in Backcountry minus Dardanelles and Freel Peak. Recommend additional areas to Backcountry (motorized use ok on existing roads and trails only)	Retain Current Inventoried Roadless Areas in Backcountry; adds Stanford Rock Backcountry area (Approximately 3,800 acres)
<b>Recommended Wilderness Area</b>	No new recommendations	No new recommendations	Recommend Dardanelles IRA	Recommend Dardanelles IRA & Freel IRA	No new recommendations



## Environmental Consequences

### Alternative A

#### Physical Resources

Surface and groundwater resources would continue to be protected and enhanced. Total Maximum Daily Load (TMDL) milestones would be achieved and no water bodies would be added to the impaired (303d) list. Measureable improvements in stream channel geomorphic stability and floodplain connectivity would result. Watersheds in condition class 1 and 2 would be maintained and the Ward and Upper Truckee watersheds would continue to move towards Condition Class 1. Soil quality would be maintained at a sustainable level.

#### Biological Resources

Habitats such as wet meadows, montane riparian, lakeside marsh and shore, and aspen would have the potential for positive trend in condition from restoration. However, streams, lakes, wetlands and meadows may decrease in condition and function where impacted by land uses, especially where expansion of recreation increases potential for AIS transference. Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer, montane chaparral and cave and cliff habitat have potential for decreasing trend because of limited ability to improve stand resiliency, reduce potential for stand-replacing fire, and reduce continued homogenization of the landscape; vegetation treatments that do not target creation/maintenance and habitat is becoming converted to forest; where recreation, roads, and trails are expanded; and because lack of protection measures for caves and for cliffs if not occupied by nesting peregrine falcons.

Willow flycatcher, bald eagle, California spotted owl, northern goshawk, great gray owl, American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox would have the potential for stability or positive trend in productivity from restoration and enhancement and vegetation treatments. Townsend's big-eared bat productivity would be expected to remain stable with potential to increase where restoration improves foraging habitat; potential to decrease without cave and cave-surrogate protection measures. Lahontan Cutthroat Trout and Sierra Nevada Yellow Legged Frog species distribution would be expected to increase as recovery/restoration strategies progress. Tui Chub and Rams-horn species distribution would be expected to stay at baseline conditions or decrease with a potential increased distribution of existing and new AIS. Active management of Tahoe Yellow Cress and Whitebark pine and sensitive species would lead to stable or increasing habitat condition.

#### Forest Vegetation, Fuels, and Fire Management

The current Forest Plan would retain tree diameter and stand canopy cover limits that would conflict with forest structure and forest resiliency conditions. Alternative A has more stringent diameter limits and thinning constraints which provides less flexibility and decreases the ability of Alternative A to meet or exceed fire behavior objectives. Alternative A provides the least opportunity to reduce the Fire Return Interval Departure (FRID).

#### Recreation

This alternative would continue to provide the current mix of setting and activities and would allow for additional development up to 10% in support of recreation opportunities. This

percentage corresponds to the following measurement indicators: permitted acres, overnight accommodation units, and day use parking spaces. In addition, Alternative A assigns the land management prescription of “Alpine Skiing” to NFS lands adjacent to permitted and private ski areas in support of future expansion. Alternative A would not result in any changes to existing OSV designations.

### **Access and Travel Management**

Alternative A would continue the existing trends of access on NFS lands.

## **Alternative B (DEIS Preferred Alternative)**

### **Physical Resources**

Surface and groundwater resources would continue to be protected and enhanced at a level equal to that in Alternative A. Total Maximum Daily Load (TMDL) milestones would be achieved and no water bodies would be added to the impaired (303d) list. Improvements in stream channel geomorphic stability and floodplain connectivity would be similar to Alternative A. Watershed condition class would be maintained and improved as in Alternative A. Soil quality would be slightly improved over Alternative A.

### **Biological Resources**

Habitats such as wet meadows, montane riparian, lakeside marsh and shore, and aspen would have a positive trend in condition because of restoration and enhancement as well as vegetation treatments that may more rapidly achieve improved condition more than other alternatives. However, streams, lakes, wetlands and meadows may decrease in condition and function where impacted by land uses; especially recreation, roads, and trails; though impacts would be less than Alternative A. Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer, montane chaparral and cave and cliff habitat have potential for continued stability with potential for positive trend where vegetation treatments improve stand resiliency, habitat heterogeneity, and stand structural diversity; where forest type conversion and structure restoration create/maintain habitat because of protection of cave and cave-surrogate habitat as well as cliff habitat for multiple sensitive species.

Willow flycatcher, bald eagle, California spotted owl, northern goshawk, great gray owl, American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox would have the potential for productivity to increase because of habitat restoration efforts, species refuge areas that include critical habitat elements, and vegetation treatments that may more rapidly achieve improved condition than other alternatives. Townsend’s big-eared bat productivity would be expected to increase because of restoration of foraging habitat and protection of cave and cave-surrogate habitat. Lahontan Cutthroat Trout and Sierra Nevada Yellow Legged Frog species distribution would be expected to increase as recovery/restoration strategies progress though they may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat at levels less than Alternative A. Tui Chub and Rams-horn species distribution would be expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication with impacts less than Alternative A.

Active management of Tahoe Yellow Cress and Whitebark pine and sensitive species would lead to stable or increasing habitat condition with less recreation development than Alternative C.

### **Forest Vegetation, Fuels, and Fire Management**

Exceptions to exceed diameter and canopy limits for the purpose of enhancing old growth & increase resiliency to fire and beetles would result in near achievement of desired conditions for white fir and Jeffrey pine. Exceptions to exceed diameter and canopy limits would make Alternative B slightly better but about the same as Alternative A in reducing fire behavior. Alternative B would provide the greatest probability of success in reducing FRID.

### **Recreation**

This alternative would continue to provide the current mix of setting and activities as Alternative A but would allow for additional development up to 5% in support of recreation opportunities. This percentage corresponds to the following measurement indicators: permitted acres, overnight accommodation units, and day use parking spaces. Unlike Alternative A, however, Alternative B removes the land management prescription of “Alpine Skiing” to NFS lands adjacent to permitted and private ski areas. Rather, additional infrastructure development within existing ski area permit boundaries would be authorized up to 5%. Alternative B would not result in any changes to existing OSV designations.

### **Access and Travel Management**

Similar to Alternative A this alternative would continue along existing trends with minor changes to the road system and an increase in mechanized trail access. This alternative balances public access needs with economic impacts and resource goals. Alternative B would encourage the adoption of unmanaged parking areas for management which will require additional funding and will provide an opportunity for interpretation and education.

## **Alternative C**

### **Physical Resources**

Surface and groundwater resources would continue to be protected and enhanced at a level equal to that in Alternatives A and B. Total Maximum Daily Load (TMDL) milestones would be achieved and no water bodies would be added to the impaired (303d) list. Improvements in stream channel geomorphic stability and floodplain connectivity would be similar to Alternatives A and B. Watershed condition class would be maintained and improved as in Alternatives A and B. Soil quality would be slightly less than Alternative A, but would still be maintained at a sustainable level.

### **Biological Resources**

Habitats such as wet meadows, montane riparian, lakeside marsh and shore, and aspen would have a positive trend in condition because of restoration and enhancement of habitat. However, streams, lakes, wetlands and meadows may decrease in condition and function where impacted by land uses; especially recreation, roads, and trails; impacts would be more than Alternative A. Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer, montane

chaparral and cave and cliff habitat have potential for continued stability with potential for positive trend where vegetation treatments improve stand resiliency, habitat heterogeneity, and stand structural diversity; where forest type conversion and structure restoration create/maintain habitat because of protection of cave and cave-surrogate habitat as well as cliff habitat for multiple sensitive species.

Willow flycatcher, bald eagle, California spotted owl, northern goshawk, great gray owl, American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox have the potential for productivity to increase because of habitat restoration efforts and species refuge areas. Townsend's big-eared bat productivity would be expected to increase because of restoration of foraging habitat and protection of cave and cave-surrogate habitat. Lahontan Cutthroat Trout and Sierra Nevada Yellow Legged Frog species distribution would be expected to increase as recovery/restoration strategies progress though they may face increased threats with expansion of recreation facilities, trails and subsequent human interaction as well as potential for increased AIS in occupied habitat at levels comparable to Alternative A and more than Alternative B. Tui Chub and Rams-horn species distribution would be expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication with impacts more than Alternative A. Active management along with the most recreation development of all alternative would lead to stable or decreasing habitat condition for Tahoe Yellow Cress and Whitebark pine.

### **Forest Vegetation, Fuels, and Fire Management**

Alternative C would allow for the greatest progress towards restoring forest structure and composition over the life of the plan. Tree removal would be greatest in this alternative through group selections with reserves, which could furnish a greater amount of early-seral habitat while enhancing or prolonging the existing and future late seral habitat. Overall, Alternative C will provide the most acres of modified fire behavior and estimates more acres in FRID reduction. But, it also includes less area allowable for managed wildfire than Alternative B.

### **Recreation**

This alternative would continue to provide the current mix of setting and activities as Alternative A but would allow for additional development up to 15% in support of recreation opportunities. This percentage corresponds to the following measurement indicators: permitted acres, overnight accommodation units, and day use parking spaces. Unlike Alternative A, however, Alternative C removes the land management prescription of "Alpine Skiing" to NFS lands adjacent to permitted and private ski areas. Rather, additional infrastructure development within existing ski area permit boundaries would be authorized up to 15%. Alternative C would not result in any changes to existing OSV designations.

### **Access and Travel Management**

Alternative C would increase passenger car road access, develop the highest degree of transit facilities, provide the most developed trail system, and have the greatest cost. Trails would be affected by increasing mechanized trails and reducing non-mechanized trails. The most managed parking would be added in the shortest time frames in this alternative.

## Alternative D

### Physical Resources

Effects to water quality and watershed condition would be the same as the other alternatives for 10-15 years. After that time there would be a greater risk of potential to maintain or improve watershed condition and achievement of long term (greater than 15 years) TMDL milestones could potentially be delayed. Improvement in soil quality would be slightly greater than in Alternative B.

### Biological Resources

Habitats such as wet meadows, montane riparian, lakeside marsh and shore, and aspen would have a positive trend in condition because of restoration and enhancement of habitat and reduction in roads, trails, and recreation infrastructure. Decreasing trend expected where restoration no longer implemented, inadequate vegetation treatments, shifting recreation use because of inability to meet demand, and increased OHV trails. However, streams, lakes, wetlands and meadows would both improve as a result of restoration and enhancement and decline where legacy impacts are allowed to persist. Impacts would be less than A but potentially more than B (due to AIS threats). Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer, montane chaparral and cave and cliff habitat would have potential for continued stability with potential for decreasing trend where vegetation management is limited in ability to improve stand resiliency, reduce potential for stand-replacing fire, and reduce continued homogenization of the landscape; where vegetation treatments aren't targeting creation/maintenance and habitat is becoming converted to forest; and lack of protection measures for caves and for cliffs if not occupied by nesting peregrine falcons.

Willow flycatcher, bald eagle, California spotted owl, northern goshawk, great gray owl, American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox have the potential for continued stability or productivity to increase from restoration and enhancement and reduction in roads, trails, and recreation infrastructure. Townsend's big-eared bat productivity would be expected to remain stable with potential to increase where currently planned restoration improves foraging habitat; potential to decrease where restoration not implemented and without cave and cave-surrogate protection measures. Lahontan Cutthroat Trout and Sierra Nevada Yellow Legged Frog species distribution would be expected to increase as recovery/restoration strategies progress and a reduction in recreation infrastructure occurs. Tui Chub and Rams-horn species distribution is expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication with impacts less than Alternatives A and C. No active management would lead to stable or decreasing habitat condition for Tahoe Yellow Cress and Whitebark pine.

### Forest Vegetation, Fuels, and Fire Management

In this alternative restoration of forest structure, resiliency or abundance would not be likely given the 12 inch diameter limit and current high stand densities. Alternative D relies heavily on hand thinning and prescribed fire to meet objects and does not provide the flexibility to meet objectives when fire is not available to manager. This alternative estimates more potential acres of FRID reduction, but is much more dependent on conditions outside the Forest Service's control.

## **Recreation**

This alternative would continue to provide the current mix of setting and activities as Alternative A but would allow for a potential reduction in development up to 15% due to ecosystem restoration activities. This percentage corresponds to the following measurement indicators: permitted acres, overnight accommodation units, and day use parking spaces. Unlike Alternative A, however, Alternative D removes the land management prescription of “Alpine Skiing” to NFS lands adjacent to permitted and private ski areas. Rather, potential reduction of infrastructure development within existing ski area permit boundaries would occur up to 15%. Alternative D would result in a reduction of areas open to OSV if proposed wilderness areas are designated by Congress.

## **Access and Travel Management**

This alternative would restrict passenger car vehicles the most, however, OHV opportunities on roads would increase. Mechanized trail use would decrease the most while non-mechanized trails would increase the most. Roadside parking would be decrease over time and not necessarily replaced.

## **Alternative E (FEIS Preferred Alternative)**

### **Physical Resources**

Surface and groundwater resources would continue to be protected and enhanced at a level equal to that in Alternatives A and B. Total Maximum Daily Load (TMDL) milestones would be achieved and no water bodies would be added to the impaired (303d) list. Improvements in stream channel geomorphic stability and floodplain connectivity would be similar to Alternatives A and B. Watershed condition class would be maintained and improved as in Alternatives A and B. Soil quality would be slightly improved over Alternative A and the same as Alternative B.

### **Biological Resources**

Habitats such as wet meadows, montane riparian, lakeside marsh and shore, and aspen would have a positive trend in condition because of restoration and enhancement as well as vegetation treatments that may more rapidly achieve improved condition more than other alternatives. However, streams, lakes, wetlands and meadows may decrease in condition and function where impacted by land uses; especially recreation, roads, and trails; though impacts would be less than Alternative A. Jeffrey pine, white fir-mixed conifer, red fir, Lodgepole pine, subalpine conifer, montane chaparral and cave and cliff habitat have potential for continued stability with potential for positive trend where vegetation treatments improve stand resiliency, habitat heterogeneity, and stand structural diversity; where forest type conversion and structure restoration create/maintain habitat because of protection of cave and cave-surrogate habitat as well as cliff habitat for multiple sensitive species.

Willow flycatcher, bald eagle, California spotted owl, northern goshawk, great gray owl, American marten, Pacific fisher, California Wolverine, Sierra Nevada Red Fox would have the potential for productivity to increase because of habitat restoration efforts, species refuge areas that include critical habitat elements, and vegetation treatments that may more rapidly achieve

improved condition than other alternatives. Townsend's big-eared bat productivity would be expected to increase because of restoration of foraging habitat and protection of cave and cave-surrogate habitat. Lahontan Cutthroat Trout and Sierra Nevada Yellow Legged Frog species distribution would be expected to increase as recovery/restoration strategies progress though they may face increased threats with expansion of recreation facilities, trails and subsequent human interaction on occupied habitat at levels less than Alternative A. Tui Chub and Rams-horn species distribution would be expected to stay at baseline conditions or increase with continued emphasis on AIS prevention, control and eradication with impacts less than Alternative A. Active management of Tahoe Yellow Cress and Whitebark pine and sensitive species would lead to stable or increasing habitat condition with less recreation development than Alternative C.

### **Forest Vegetation, Fuels, and Fire Management**

Exceptions to exceed diameter and canopy limits for the purpose of enhancing old growth & increasing resiliency to fire and beetles are more clearly explained and would result in near achievement of desired conditions for white fir and Jeffrey pine. Exceptions to exceed diameter and canopy limits would make Alternative E slightly better but about the same as Alternatives A and B in reducing fire behavior. Alternative E, the same as Alternative B, would provide the greatest probability of success in reducing FRID.

### **Recreation**

This alternative would provide a mix of setting and activities between Alternatives A and B, with specific limits on recreation expansion. This percentage corresponds to the following measurement indicators: permitted acres, overnight accommodation units, and day use parking spaces. The same as Alternative B, Alternative E removes the land management prescription of "Alpine Skiing" to NFS lands adjacent to permitted and private ski areas. Additional infrastructure development within existing ski area permit boundaries would be authorized up to the specific limits. Alternative E would not result in any changes to existing OSV designations.

### **Access and Travel Management**

Similar to Alternative A this alternative would continue along existing trends with minor changes to the road system and an increase in mechanized trail access. This alternative balances public access needs with economic impacts and resource goals. Alternative E would encourage the adoption of unmanaged parking areas for management which will require additional funding and will provide an opportunity for interpretation and education.